Second, the Sixth Circuit erroneously determined that whenever there is a hydrological connection between a wetland and a navigable water, that fact alone can be considered dispositive of the existence of a significant nexus that is sufficient to establish Clean Water Act jurisdiction. While a mere hydrological connection – particularly one that is highly attenuated – may serve as a nexus with navigable waters, such a nexus may or may not be significant. A determination of significance must take other factors into account. In particular, the extent to which wetlands may be considered "waters of the United States" depends in part on whether material placed in the wetlands can reasonably be expected to reach navigable waters. In addition, because the Clean Water Act regulates point source discharges of pollutants and not pollution from nonpoint sources, the courts must be careful not to allow the Corps and the U.S. Environmental Protection Agency to use the regulation of wetlands as a backdoor method of regulating nonpoint sources and land use.

Finally, the Sixth Circuit failed to consider that, in both of the decisions under review, it was authorizing the assertion of jurisdiction over wetlands based on the purported hydrological connection between the wetlands and conveyances that qualify as point sources under section 402 of the Clean Water Act, 33 U.S.C. § 1342 (2000). The Clean Water Act does not require a permit to discharge pollutants into a point source. It regulates the discharge of pollutants from a point source. The point source itself is not a water of the United States and wetlands may not be considered waters of the United States by virtue of being adjacent to the point source.

ARGUMENT

I. There Is No Clean Water Act Jurisdiction Over Wetlands That Are Hydrologically Isolated From Navigable Waters.

In *Carabell*, the Sixth Circuit held that the significant nexus with navigable waters that is required for Clean Water Act jurisdiction could be satisfied by a determination that the wetlands in question are "adjacent" to a tributary of navigable waters within the meaning of the Corps' regulations. 391 F.3d at 709-10 (Pet. App. 10a-12a). However, the loose label of "adjacency" cannot substitute for a critical case-by-case appraisal of whether a significant nexus with navigable waters in fact exists.

Notwithstanding the court's finding of "adjacency," the facts demonstrate that the wetlands at issue in *Carabell* are hydrologically isolated from navigable waters. The Sixth Circuit stated that "[t]he berm edging the Carabells' property serves to block immediate drainage of surface water out of the parcel into the ditch" running parallel to the berm along the edge of the property. 391 F.3d at 705 (Pet. App. 3a). The Sixth Circuit recognized that "the *SWANCC* Court made clear that isolated intrastate waters cannot be subject to the Corps' jurisdiction under the CWA." *Id.* at 709 (Pet. App. 10a). Despite this recognition, the Sixth Circuit upheld summary judgment for the Corps by relying on Corps regulations that assert Clean Water Act jurisdiction over wetlands that are adjacent to tributaries of waters of the United States.[5]

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[5] Regulations issued by the Corps define "waters of the United States" to include waters that are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters subject to the ebb and flow of the tide (*i.e.*, traditional navigable waters) (33 C.F.R. § 328(a)(1) (2005)); interstate waters including interstate wetlands (*id.* § 328(a)(2)); all other waters the use, degradation or destruction of which would

This result ignores the basis of this Court's opinion in *SWANCC*. In *SWANCC*, the Court found that when Congress enacted the Clean Water Act in 1972, it intended to regulate wetlands and other water bodies that are inseparably bound up with navigable waters. 531 U.S. at 167. However, it is difficult to see how a wetland that does not have a surface water connection with navigable waters could have a significant nexus with those waters.[6] Pollutants discharged into such a wetland cannot reach navigable waters and therefore cannot impact such waters in any way that could be considered significant. The fact that the Corps determined that filling in the wetlands at

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affect interstate or foreign commerce (*id.* § 328(a)(3)); all impoundments of waters otherwise defined as waters of the United States (*id.* § 328(a)(4)); *tributaries of waters identified in paragraphs (1) through (4)* (*id* § 328(a)(5)); the territorial seas (*id.* § 328(a)(6)); and *wetlands that are adjacent to any of the waters identified in paragraphs (1) through (6)* (*id.* § 328(a)(7)). EPA's regulations include the same definition for the purpose of implementing other sections of the Act. 40 C.F.R. § 230.3(s) (2005).

[6] While a wetland that has no surface water connection with navigable waters could have an indirect connection to such waters through groundwater, the courts have generally recognized that groundwater is a state-regulated resource that is not covered under the Clean Water Act. See, *e.g.*, *Rice v. Harken Exploration Co.*, 250 F.3d 264, 269 (5th Cir. 2001); *Village of Oconomowoc Lake v. Dayton Hudson Corp.*, 24 F.3d 962, 965 (7th Cir. 1994). As such, groundwater cannot serve as a basis for a hydrological connection sufficient to establish jurisdiction under the Act. See *Oconomowoc Lake*, 24 F.3d at 962. Contamination of groundwater, which can result from releases of contaminants onto dry ground as readily as through releases to wetlands, is generally addressed through other federal and state authorities such as the Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. §§ 9601-9675 (2000) ("CERCLA").

issue in *Carabell* would reduce habitat for wildlife[7] cannot be used to establish a significant nexus, as this Court clearly stated in *SWANCC*. *Id.* at 171-72.

The only potential pollution of navigable waters emanating from the property at issue that was identified in *Carabell* is ordinary nonpoint source runoff that may occur as a result of the development of *any* piece of property, regardless of whether it is a wetland. *Carabell*, 257 F. Supp. 2d at 932 (Pet. App. 50a-51a). However, the Clean Water Act is not a land preservation statute. Changes in land use are not regulated under the Clean Water Act but are instead left to the states. See 33 U.S.C. § 1251(b) (2000). Thus, even if development of the wetlands would increase impervious surfaces, potentially causing runoff and erosion affecting water quality, such impacts cannot be used to establish a significant nexus without upsetting the federal-state balance inherent in the Act.[8] Accordingly, in *Carabell*, as in *SWANCC*, there is no federal jurisdiction under the Clean Water Act.

The Sixth Circuit attempted to justify the Corps' jurisdictional determination in Carabell by relying on this Court's statement in *United States v. Riverside Bayview Homes*, 474 U.S. 121, 135 (1985), that "[i]f it is reasonable for the Corps to conclude that in the majority of cases, adjacent wetlands have significant effects on water quality and the aquatic ecosystem, its definition can stand." See *Carabell*, 391 F.3d at 709 (Pet. App. 11a). However, the

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[7] *Carabell v. U.S. Army Corps of Eng'rs*, 257 F. Supp. 2d 917, 924 (E.D. Mich. 2003), aff'd 391 F.3d 704 (6th Cir. 2004), cert. granted, 126 S. Ct. 414 (2005) (Pet. App. 33a-34a).

[8] Increased runoff caused by the creation of impervious surfaces is not a discharge of a pollutant from a point source. If collected in a conveyance, such runoff may be regulated under section 402(p) of the Clean Water Act as a stormwater discharge. 33 U.S.C. § 1342(p) (2000). Otherwise, it is nonpoint source pollution, the regulation of which is left to the states.

Court in *Riverside Bayview* was focused on the question of jurisdiction over wetlands that directly abut open water and whether frequent flooding of the wetland by the open water is necessary to establish jurisdiction. 474 U.S. at 131. Therefore, the Court's affirmation of the Corps' determination to regulate adjacent wetlands must be read in that context, *i.e.*, as affirming the Corps' definition of adjacent wetlands as it applies to wetlands that "actually abut[ ]" navigable waters, *id.* at 135.

The fact that the Corps may presume a significant nexus where wetlands directly abut open waters does not mean that it is reasonable to presume such a nexus where wetlands are, as here, geographically removed from open water. Indeed, the Corps' application of the adjacency concept demonstrates the highly elastic nature of this concept in practice and undercuts any suggestion that adjacent wetlands by their very nature have a significant nexus with navigable waters. For example, some Corps districts routinely assert jurisdiction over wetlands that are 200 feet away from any tributary of a navigable water, while other districts may consider wetlands to be adjacent to waters of the United States – and therefore consider the wetlands themselves to be waters of the U.S. – if the wetlands are 500 feet from a navigable water or a tributary. See U.S. General Accounting Office, GAO-04-297, *Waters and Wetlands: Corps of Engineers Needs to Evaluate Its District Office Practices in Determining Jurisdiction* 19 (2004) (hereinafter "*GAO Report*"). Some Corps districts consider wetlands to be adjacent to navigable waters or their tributaries if the wetlands are within the 100-year floodplain of the navigable water or tributary in question, an area that can extend several miles from the navigable water or tributary. *Id.* at 17-18.

Thus, the notion of adjacency can be very expansive and can serve as a license to the Corps to regulate broad areas of the landscape regardless of the presence of any

hydrological connection – however remote – between the areas being regulated and the navigable waters that are the focus of Clean Water Act authority. Such assertions of jurisdiction result in "a significant impingement of the States' traditional and primary power over land and water use," *SWANCC*, 531 U.S. at 174,[9] and cannot be sustained.

II. A Hydrological Connection Alone Does Not Constitute A Significant Nexus Between A Wetland And Navigable Waters Sufficient To Establish Jurisdiction As A Matter of Law.

The Sixth Circuit has also expanded the "significant nexus" test by ruling that a mere hydrological connection to navigable waters can, as a matter of law, establish federal jurisdiction over a wetland. *Rapanos*, 376 F.3d at 639 (Pet. App. A16) (the presence of a hydrological connection is a significant nexus between the wetlands and navigable waters, *citing Rapanos*, 339 F.3d at 453). That ruling, if left undisturbed, would drain the "significant nexus" test established in *Riverside Bayview* and *SWANCC* of any meaning.

The government's position in *Carabell* provides a telling example of the lengths to which the Corps will push the concept of a "hydrological connection" in order to assert jurisdiction over a wetland. In its opposition to the petition for certiorari in *Carabell*, the government has suggested that the wetlands at issue there are not hydrologically isolated from the ditch running along one edge of the property (as the court of appeals found) because, *inter alia*, of the fact that the berm separating the wetlands on the property from the ditch may be overtopped when water levels on the property are high. See U.S. Br. in Opp., No.

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[9] This impingement on state authority to control land and water use is dramatized in *Carabell* by the fact that the Corps in that case effectively vetoed the state's approval of the proposed development of portions of the property. 391 F.3d at 706 (Pet. App. 4a-5a).

04-1384, at 5. The government does not indicate how often such overtopping allegedly occurs, but based on the Corps' practice in other cases it must be presumed that the Corps would take the position that overtopping would be sufficient to establish a surface hydrological connection – and therefore, according to the Sixth Circuit, a significant nexus – if such overtopping occurred only once every hundred years. See *GAO Report* at 17-18 (written guidance from the Galveston District of the Corps states that the district generally regulates wetlands in the 100-year floodplain because this type of flooding is sufficient evidence of a hydrological connection to establish jurisdiction).

It strains credulity to believe that a "hydrological connection" that manifests itself on such an infrequent basis could be deemed significant as a matter of law. Under that approach, virtually all wetlands would become subject to the Corps' jurisdiction, an outcome rejected in *SWANCC*. As the district court observed in *Rapanos*:

> It is worth noting that the majority opinion in [*SWANCC*] repeatedly refers to the wetlands at issue in that case as "isolated," despite the fact that, as the dissent points out, even the most seemingly "isolated" wetlands are in fact both hydrologically connected, as well as ecologically connected, to navigable waters * * *. The dissent notes that the wetlands in [*SWANCC*] are at least ecologically connected * * *. Despite this, the majority still refers to the wetlands as isolated * * *.

Rapanos, 190 F. Supp. 2d at 1014, n.3. See also *FD&P Enters., Inc. v. U.S. Army Corps of Eng'rs*, 239 F. Supp. 2d 509, 516 (D.N.J. 2003) (because *SWANCC* has substantially altered the meaning of "navigable waters" in the CWA, a "significant nexus" must constitute more than a mere "hydrological connection").

The Corps has strained the concept of "hydrological connection" not only in terms of frequency but distance as well. Here *Rapanos* provides the example. In that case, the district court found that the nearest navigable water was 20 miles away from the Salzburg site. 190 F. Supp. 2d at 1012. In other cases, courts have upheld assertions of jurisdiction on the basis of a hydrological connection where the nearest navigable water was 190 miles downstream. See *United States v. Buday*, 138 F. Supp. 2d 1282, 1283 (D. Mont. 2001). In such cases, the courts have uncritically assumed that such a highly attenuated hydrological connection constitutes a significant nexus, in effect using any surface water connection – no matter how attenuated or remote – as a proxy for proof of a true significant nexus.

The Sixth Circuit's approach untethers the "significant nexus" test from its moorings. Taken to its logical extreme, the principle adopted by the Sixth Circuit could lead to federal regulation of any land use that could have an effect on navigable waters, notwithstanding the fact that Congress limited the regulatory reach of the Clean Water Act to the discharge of pollutants from point sources into navigable waters.

That concern is not speculative. In *Rice v. Harken Exploration Co.*, 250 F.3d 264 (5th Cir. 2001), for example, the plaintiff alleged that the jurisdictional scope of the Oil Pollution Act (which applies to navigable waters and includes a definition of navigable waters identical to that in the Clean Water Act) extends to the release of oil on dry land that seeped into groundwater. In *Rice*, the Fifth Circuit declined to find that the land at issue was subject to federal jurisdiction, but the reasoning of the Sixth Circuit in *Rapanos* would support the opposite conclusion. Compare *Rice*, 250 F.3d at 269, 272 with *Rapanos*, 339 F.3d at 451.

If the limits on Clean Water Act jurisdiction recognized by the Court in *SWANCC* are to be respected, the Corps cannot be allowed to simply assume that a significant nexus

exists whenever it is able to divine a surface water connection with navigable waters. Rather, the significance of a nexus with navigable waters must be determined by reference to the principal focus of the Clean Water Act, *i.e.*, protection of the navigable waters that Congress primarily intended to regulate. See *SWANCC*, 531 U.S. at 172. Thus, "significance" must be determined by, *inter alia*, the discernible effects that the activity to be regulated would have on navigable waters. In particular, the Corps should be required to demonstrate at least some reasonable likelihood that pollutants such as fill material would reach or otherwise significantly effect navigable waters in order to establish a basis for jurisdiction.[10] In the absence of such a requirement, the Corps will continue to exercise broad jurisdiction that exceeds the proper bounds of its Clean Water Act authority and that impinges on state regulation of land and water use.

III. There Is No Clean Water Act Jurisdiction Over Wetlands That Are Adjacent To Point Sources.

The Sixth Circuit's approach to Clean Water Act jurisdiction is also problematic because it treats ditches as waters of the United States rather than as what they are and were intended to be, *i.e.*, man-made structures for conveying water to water bodies. This approach ignores the careful structure of the Act. The Corps and reviewing courts must consider how all sections of the Clean Water Act work together to protect navigable waters. They

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[10] Pollutants that do not reach navigable waters may be addressed through a variety of other authorities, including various state regulatory and cleanup programs and, in appropriate circumstances, federal authorities such as CERCLA. See, *e.g.*, 42 U.S.C. §§ 9601(8), 9607 (2000) (imposing liability on various parties for releases of hazardous substances into the "environment," which is defined to include any surface water or groundwater within the United States).

should not, contravening statutory[11] and constitutional[12] constraints, expand federal jurisdiction over land and water resources beyond that which is necessary to protect navigable waters.

The Sixth Circuit proceeded as if the only regulatory tool available to protect the quality of the Nation's waters is a finding that a ditch or other conveyance, through which pollutants might conceivably be transported to navigable waters, is itself a "water of the United States." But that ignores the role that section 402 of the Clean Water Act, 33 U.S.C. § 1342, plays in protecting navigable waters from pollution.

Section 402 authorizes the issuance of permits for the discharge of pollutants from point sources into waters of the United States. The Act defines "point source" as "any discernible, confined and discrete conveyance, including but not limited to any pipe, *ditch*, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged." 33 U.S.C. § 1362(14) (2000) (emphasis added). The point source – such as a man-made drainage ditch – itself is not a "water of the United States." See, *e.g.*, *South Fla. Water Mgmt. Dist. v. Miccosukee Tribe of Indians*, 541 U.S. 95, 105 (2004) (a point source conveys pollutants to navigable waters). It is therefore not regulated. However, the discharge from the

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[11] *See SWANCC*, 531 U.S. at 166-67 (noting that in the Clean Water Act, "Congress chose to 'recognize, preserve, and protect the primary responsibilities and rights of States to prevent, reduce, and eliminate pollution, to plan the development and use (including restoration, preservation, and enhancement) of land and water resources, and to consult with the Administrator in the exercise of his authority under this chapter.'").

[12] *See SWANCC*, 531 U.S. at 174 (noting that the exercise of federal jurisdiction over land and water can raise "significant constitutional questions").

point source *into* waters of the United States is regulated. See 33 U.S.C. §§ 1311(a), 1362(12) (2000). Such point source discharges generally require a permit under section 402 or section 404 of the Act, 33 U.S.C. §§ 1342, 1344. This regulatory structure imposes federal authority at the proper place to protect the federal interest in navigable waters without infringing upon the use of private property and other land and water uses traditionally regulated by states, *i.e.*, the point of discharge into navigable waters.

For example, in *In re Needham*, 354 F.3d 340 (5th Cir. 2003), the Fifth Circuit found that a discharge of oil was regulated without any need to find that non-navigable channels through which the oil passed were waters of the United States. That case (brought under the Oil Pollution Act (OPA), 33 U.S.C. §§ 2701-20 (2000)), involved oil that had spilled into a non-navigable drainage ditch that was not adjacent to a navigable water. It was stipulated that the "oil was discharged from the Thibodeaux facility into Bayou Cutoff *and Bayou Folse*." *Needham*, 354 F.3d at 346 (emphasis in original). The oil spill on the Thibodeaux facility itself was not regulated under OPA or the Clean Water Act, even when the oil moved into a drainage ditch adjacent to the facility or into Bayou Cutoff (a non-navigable downstream water). But, when the oil discharged into Bayou Folse – which was immediately adjacent to a navigable water and therefore within the jurisdiction of the Clean Water Act – the release of oil became regulated under OPA. *Id.* at 347; 33 U.S.C. § 2702 (2000) (imposing liability on persons responsible for the discharge of oil from a facility into navigable waters). The same principles apply under the Clean Water Act.[13]

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[13] But see *Headwaters, Inc. v. Talent Irrigation Dist.*, 243 F.3d 526 (9th Cir. 2001). The *Talent* case involved the release of a pesticide into an irrigation canal that discharged into navigable waters, causing a fish kill. *Id.* at 528. Under ordinary operations, the

Thus, under the Clean Water Act there is no need to stretch the statutory text to find that ditches, sewers, or other conveyances are themselves waters of the United States to protect navigable waters from discharges of pollutants from those conveyances. Sections 301 and 402 of the Act, 33 U.S.C. §§ 1311, 1342 (2000), regulate these discharges.

At the same time, ignoring the distinction between point sources and navigable waters could lead to the assertion of jurisdiction over all things through or over which water flows, including sewer pipes, roads, driveways, and even the ground, as well as the ditches at issue in *Rapanos* and *Carabell*. That result would upset the careful regulatory balance established in the Clean Water Act. For example, section 402(p) of the Clean Water Act requires municipalities to bring storm water discharges from municipal separate storm sewer systems under Clean Water Act regulation over time and to regulate those discharges "to the maximum extent practicable." 33 U.S.C. § 1342(p). Allowing municipalities time to come into compliance and establishing a separate, "maximum extent practicable" standard for these discharges from the ditches and storm sewers in our cities and suburbs demonstrates the choice of Congress to subject discharges from these types of conveyances to less stringent regulation than discharges

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irrigation district closed off its canal when applying pesticides to control the growth of aquatic weeds. However, the irrigation district failed to do so at least once. *Id.* at 533. The Ninth Circuit ruled that the irrigation ditches were waters of the United States. *Id.* at 534. However, the parties in that case did not raise and the court did not consider the issue of whether the canal was more properly considered a point source. As in *Needham*, the facts in *Talent* would still lead to the conclusion that an unpermitted discharge occurred. However, that discharge occurred at the point where the canal joined navigable waters, not at the point of application of pesticides into the canal.

from industrial sources. However, that legislative intent could be completely upset by the decisions of the lower courts. Under the rationale of the decisions below, municipal separate storm sewer systems could themselves be considered waters of the United States, prohibiting unpermitted discharges into those sewers and requiring the water in the sewer itself to meet water quality standards. That would result in far more extensive regulation of municipal sewer systems than that contemplated by section 402(p) of the Clean Water Act.

Nor can the broad goals of the Clean Water Act be used to justify an expansive definition of the regulatory authority conferred by the Act. The Clean Water Act carefully prescribes in ninety-four separate sections how the goals of the Act are to be implemented.[14] Implementing agencies and reviewing courts must use the specific terms of the Clean Water Act to determine the Act's jurisdictional scope.[15] As the Court has observed:

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[14] See, *e.g.*, 33 U.S.C. §§ 1251-74 (2000) (research and grant programs, including grants for groundwater monitoring); *id.* § 1288 (calling for the development of State areawide waste treatment management plans, including identification and control of nonpoint sources); *id.* §§ 1291-1301 (2000) (construction grants for publicly owned treatment works); *id.* § 1329 (2000) (assistance for the management of unregulated nonpoint sources); *id.* § 1342 (2000) (permitting program for point source discharges, with exemptions); *id.* § 1344 (2000) (permitting program for discharges of dredged and fill material, with exemptions).

[15] Section 301 of the Clean Water Act prohibits the discharge of pollutants from point sources. 33 U.S.C. § 1311(a). This leaves nonpoint sources of pollution unregulated under the Act, with such regulation being left to the states. Because the implementing agencies have no authority to regulate nonpoint source runoff and may not impinge on State authority over land use, the implementing agencies must avoid the regulation of general runoff from land. When runoff flows from the surface of land into a conveyance that is a point source under section 402 of the Act (such as a ditch),

> No legislation pursues its purposes at all costs. Deciding what competing values will or will not be sacrificed to the achievement of a particular objective is the very essence of legislative choice – and it frustrates rather than effectuates legislative intent simplistically to assume that *whatever* furthers the statute's primary objective must be the law.

Rodriguez v. United States, 480 U.S. 522, 525-26 (1987).

CONCLUSION

The Clean Water Act is not a grant of plenary authority to take any action to prevent all adverse impacts to waters or wetlands. As this Court has stated, jurisdiction under the Act is limited to traditionally navigable waters and wetlands and other waters that have a significant nexus to those navigable waters. The Sixth Circuit's approach to defining "significant nexus" threatens to eviscerate the jurisdictional limits recognized by the Court in *SWANCC*, allowing the Corps to engage in broad regulation of land and water use. While the Act provides for research, planning, technical assistance, and grants to help protect all surface water and groundwater from both point and nonpoint sources of pollutants and pollution, the regulatory reach of the Act is limited to the prohibition of the discharge of pollutants from point sources into navigable waters without a permit. In determining the jurisdictional scope of the Corps' regulatory authority, this Court should avoid expanding that authority to encompass land conservation and habitat preservation. Because this approach will impinge on traditional state prerogatives, the decisions of the court below should be reversed.

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navigable waters are protected by the regulation of the discharge from the point source, so no regulation of land use is appropriate or necessary.

Respectfully submitted.

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IN THE

Supreme Court of the United States

JUNE CARABELL, *et al.*,

Petitioners,

v.

UNITED STATES ARMY CORPS OF ENGINEERS, *et al.*,

Respondents.

On Writ of Certiorari to the United States Court of Appeals for the Sixth Circuit

BRIEF OF ECOLOGICAL SOCIETY OF AMERICA, SOCIETY OF WETLAND SCIENTISTS, AMERICAN SOCIETY OF LIMNOLOGY AND OCEANOGRAPHY, AND ESTUARINE RESEARCH FEDERATION AS *AMICI CURIAE* IN SUPPORT OF RESPONDENTS

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The Ecological Society of America, Society of Wetland Scientists, American Society of Limnology and Oceanography, and Estuarine Research Federation, as *amici curiae*, respectfully submit this brief in support of Respondents United States Army Corps of Engineers and the United States Environmental Protection Agency.[1]

INTERESTS OF THE *AMICI CURIAE*

Amici are the leading professional associations of wetland and aquatic scientists in the United States. The Ecological Society of America (ESA) is an organization of scientists founded in 1915 to promote ecological science by improving communication among ecologists, raise the public's level of awareness of the importance of ecological science, and ensure the appropriate use of ecological science in environmental decision making by enhancing communication between the ecological community and policy-makers. Ecology is the scientific discipline that is concerned with the relationships between organisms and their past, present, and future environments. ESA has published the scientific journal *Ecology* since 1920. The Society's Aquatic Ecology Section is its largest section.

The Society of Wetland Scientists (SWS) is an international organization formed in 1980 to further scientific and educational objectives related to wetland science and to encourage and strengthen professional standards in all

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[1] All parties have consented to the filing of this brief. Pursuant to this Court's Rule 37.6, *Amici* state that no counsel for any party in this case authored this brief in whole or in part, and no person or entity other than the *Amici* and their counsel have made a monetary contribution to the preparation and submission of this brief.

activities related to wetlands science. SWS has 4200 members and publishes a quarterly journal *Wetlands* concerned with all aspects of wetlands biology, ecology, hydrology, water chemistry, soil and sediment characteristics, and management. SWS established a Professional Certification Program to serve the public's need to identify qualified individuals in the practice of wetland science.

The American Society of Limnology and Oceanography (ASLO) is a professional organization formed in 1948 for researchers and educators in the field of aquatic science. Limnology is the scientific study of the physical, chemical, hydrological, and biological aspects of inland water bodies. ASLO promotes integration and communication of knowledge across the full spectrum of aquatic science and the scientific stewardship of aquatic resources for the public interest. ASLO publishes the scientific journal *Limnology and Oceanography*.

The Estuarine Research Federation (ERF) is a professional organization founded in 1971 to promote research on estuaries and coastal waters and to provide information and advice on matters concerning estuaries and the coastal zone. ERF publishes the scientific journal *Estuaries and Coasts*.

Amici support the use of the best available scientific information in making decisions on the use and management of wetlands and aquatic resources.

INTRODUCTION AND SUMMARY OF ARGUMENT

In *United States v. Riverside Bayview Homes, Inc.*, this Court upheld Clean Water Act regulation of wetlands adjacent to open waters and other waters of the United States because such wetlands are "inseparably bound up" with those waters and Congress intended to enact a comprehensive

program to control water pollution at its source. 474 U.S. 121, 134 (1985) ("*Riverside Bayview*").

The *Rapanos* petitioners challenge the essential holding of *Riverside Bayview* and contend Clean Water Act regulation is limited to wetlands that directly abut large navigable water bodies, excluding from regulation tributaries and associated wetlands. The *Carabell* petitioners contend that wetlands separated from a tributary by a narrow earthern berm are not regulated. Each of the petitioners effectively challenges the validity of federal regulations defining "adjacent" wetlands as "waters of the United States."

As developed below, the definition in question has a firm scientific foundation. Wetlands adjacent to tributaries are inseparably bound up with those and other downstream waters, and because of that connection serve functions essential to maintenance of water quality in the nation's navigable waters. Because adjacent wetlands form the primary interface between terrestrial systems and downstream waters, they exert a powerful influence on downstream water quantity and quality. For example, adjacent wetlands in the upper Mississippi River watershed remove nutrients such as nitrogen – which plays a large role in the hypoxic "dead zone" in the Gulf of Mexico – from water and prevents the pollutants from flowing downstream. It follows that the failure to protect wetlands adjacent to tributaries will have significant adverse effects on water quality and the aquatic ecosystem and will undermine achievement of the legislated goal of the Clean Water Act "to restore and maintain the chemical, physical and biological integrity of the nation's waters." 33 U.S.C.1251.